

R E M A R K S

Reconsideration of this application, as amended, is respectfully requested.

RE: THE ALLOWABLE SUBJECT MATTER

The Examiner's indication of the allowability of the subject matter of claim 3 is respectfully acknowledged.

New independent claim 56 has been added to recite the subject matter of allowable claim 3 in independent form (and in better U.S. form).

No new matter has been added, and no new issues with respect to patentability have been raised.

Accordingly, it is respectfully requested that new independent claim 56 be approved and entered. And it is respectfully submitted that new independent claim 56 is in condition for immediate allowance.

RE: THE SPECIFICATION

The specification has been amended to correct a minor informality of which the undersigned has become aware.

No new matter has been added, and it is respectfully requested that the amendment to the specification be approved and entered.

THE DRAWINGS

Figs. 11(a), 11(b), 12(a), 12(b), 12(c), 13(a), 13(b), 15(a), 15(b), 17(a) and 17(b) have been amended to be more clearly labeled. In addition, Figs. 17(a) and 17(b) have been amended to be labeled as Prior Art, as required by the Examiner.

Submitted herewith are corrected sheets of formal drawings which incorporate the amendments and annotated sheets showing the changes made thereto.

No new matter has been added, and it is respectfully requested that the amendments to the drawings be approved and entered.

It is respectfully submitted, moreover, that all of the features recited in the new claims are shown in the drawings.

Accordingly, it is respectfully requested that the objections to the drawings be withdrawn.

RE: THE ELECTED CLAIMS

New claims 35-37, 42-44, 52 and 54 have been prepared to recite the subject matter of (now canceled) elected claims 1-3, 12-14, 25 and 28 rewritten in better U.S. form.

In addition, new independent claims 35 and 52 have been prepared to clarify the feature of the present invention whereby when the first alignment marks are aligned with the second alignment marks, the light guide substrate and the actuator

substrate are aligned such that the at least one mirror is aligned with the corresponding at least one mirror receiving recess such that each said at least one mirror is able to advance into and retract from the corresponding one said at least one mirror recess.

No new matter has been added, and it is respectfully requested that new claims 35-37, 42-44, 52 and 54 be approved and entered.

RE: THE NON-ELECTED CLAIMS

New claims 38, 39 and 45 have been prepared to depend from new (elected) claim 35 based on the subject matter of (now canceled) claims 4, 9 and 15.

In addition, new claim 53 has been prepared to depend from new (elected) claim 52 based on the subject matter of (now canceled) claim 26.

Still further, new claims 40, 41, 46-51 and 55 have been prepared based on the subject matter of (now canceled) claims 10, 11, 16-21 and 28.

Thus, all of new claims 38-41, 45-53 and 55 depend from an elected claim.

Accordingly, it is respectfully requested that upon allowance of new claims 35 and 52, claims 38-41, 45-53 and 55 also be considered on the merits and allowed.

RE: THE PRIOR ART REJECTION

Claims 1, 2, 12-14, 25 and 28 were rejected under 35 USC 103 as being obvious in view of the combination of USP 6,404,942 ("Edwards et al") and USP 6,449,406 ("Fan et al"). This rejection, however, is respectfully traversed with respect to the new claims set forth hereinabove.

On pages 4 and 5 of the Office Action, the Examiner acknowledges that Edwards et al does not specifically disclose first alignment marks and second alignment marks. However, the Examiner suggests that the mirror arrays and trenches of Edwards et al may be used to align the substrates 10 and 40 thereof.

It is respectfully pointed out, however, that the difficulties encountered when aligning the light guide substrate and actuator substrate by monitoring the positions of the mirrors and recesses are described in detail at, for example, pages 5-7 of the specification.

And it is respectfully pointed out that according to the present invention as recited in independent claims 35 and 52, independent first and second alignment marks are provided on the light guide substrate and the actuator substrate in addition to the mirror receiving recess(es) and the mirror(s), such that when the first alignment marks are aligned with the second alignment marks, the light guide substrate and the actuator substrate are aligned such that the at least one mirror is aligned with the

corresponding at least one mirror receiving recess such that each said at least one mirror is able to advance into and retract from the corresponding one said at least one mirror recess. Thus, it is respectfully submitted that the first and second alignment marks of the claimed present invention do not correspond to mirrors and mirror receiving recesses, as suggested by the Examiner.

On page 5 of the Office Action, the Examiner asserts that Fan et al more explicitly discloses the alignment marks of the claimed present invention. The Examiner refers, in particular, to column 8, lines 20-49 of Fan et al.

It is respectfully submitted, however, that Fan et al merely discloses dropping mirror blocks 410 into a fixture 420 that has "alignment grooves" that are not shown in the drawings thereof. And Fan et al merely discloses that fixture 420 is aligned with an actuator wafer 440.

It is respectfully submitted that Fan et al does not disclose how the "alignment grooves" are used. And it is respectfully submitted that even if the "alignment grooves" on the fixture 420 of Fan et al are used in aligning the fixture 420 with the wafer 440, Fan et al clearly does not disclose any alignment markings on the actuator wafer 440 that are aligned with the "alignment grooves" on the fixture 420.

Therefore, it is respectfully submitted that Fan et al clearly does not disclose, teach or suggest the first alignment marks and second alignment marks of the present invention as recited in new independent claims 35 and 52, which are aligned with each other when aligning and joining the light guide substrate and the actuator substrate such that when the first alignment marks are aligned with the second alignment marks, the light guide substrate and the actuator substrate are aligned such that the at least one mirror is aligned with the corresponding at least one mirror receiving recess such that each said at least one mirror is able to advance into and retract from the corresponding one said at least one mirror recess.

With respect to new claim 42 (corresponding to now canceled claim 12) depending from claim 35, moreover, the Examiner asserts on page 5 of the Office Action that element 15 of Edwards et al corresponds to the spacer recited in claim 12.

It is respectfully submitted, however, that element 15 of Edwards et al is a trench, as is explained throughout the disclosure of Edwards et al.

Therefore, it is respectfully submitted that the trench 15 of Edwards et al (corresponding to groove 24 shown in Fig. 1 of the present application) clearly cannot be interposed between the light guide substrate and the actuator substrate to separate the light guide substrate and the actuator substrate by a thickness of

the spacer, such that the at least one mirror is completely retracted from the corresponding mirror receiving recess when in the second position, in the manner of the present invention as recited in new claim 42 (or in the manner recited in new method claim 53).

With respect to new claim 54 (corresponding to now canceled claim 28) depending from claim 52, moreover, it is respectfully submitted that Edwards et al does not disclose, teach or suggest the feature of the present invention as recited in new claim 54 whereby while aligning the light guide substrate and the actuator substrate, signals are applied to the actuator substrate to position the at least one mirror in the second position (retracted from the mirror receiving recess).

By contrast, as shown in Fig. 5H of Edwards et al and as described at column 7, lines 6-10 thereof, the mirror 22 is inserted into the trench 15 when assembling the second substrate 40 to the first substrate 10.

In view of the foregoing, it is respectfully submitted that even if Edwards et al and Fan et al were combinable in the manner suggested by the Examiner, the features of the present invention as recited in new independent claims 35 and 52 still would not be achieved or rendered obvious.

Accordingly, it is respectfully submitted that new independent claims 35 and 52, and claims 36-51 and 53-55

respectively depending therefrom, all clearly patentably distinguish over Edwards et al and Fan et al, taken singly or in combination under 35 USC 103, along with allowable new claim 56.

* * * * *

In view of the foregoing, entry of this Amendment, allowance of the claims and the passing of this application to issue are respectfully solicited.

If the Examiner has any comments, questions, objections or recommendations, the Examiner is invited to telephone the undersigned at the telephone number given below for prompt action.

Respectfully submitted,

/Douglas Holtz/

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Amendments to the Drawings:

Figs. 11(a), 11(b), 12(a), 12(b), 12(c), 13(a), 13(b), 15(a), 15(b), 17(a) and 17(b) have been amended to be more clearly labeled. In addition, Figs. 17(a) and 17(b) have been amended to be labeled as Prior Art, as required by the Examiner.

Attachment: Annotated Sheets Showing Changes

Replacement Sheets



~~Fig. 11~~

Fig. 11(a)

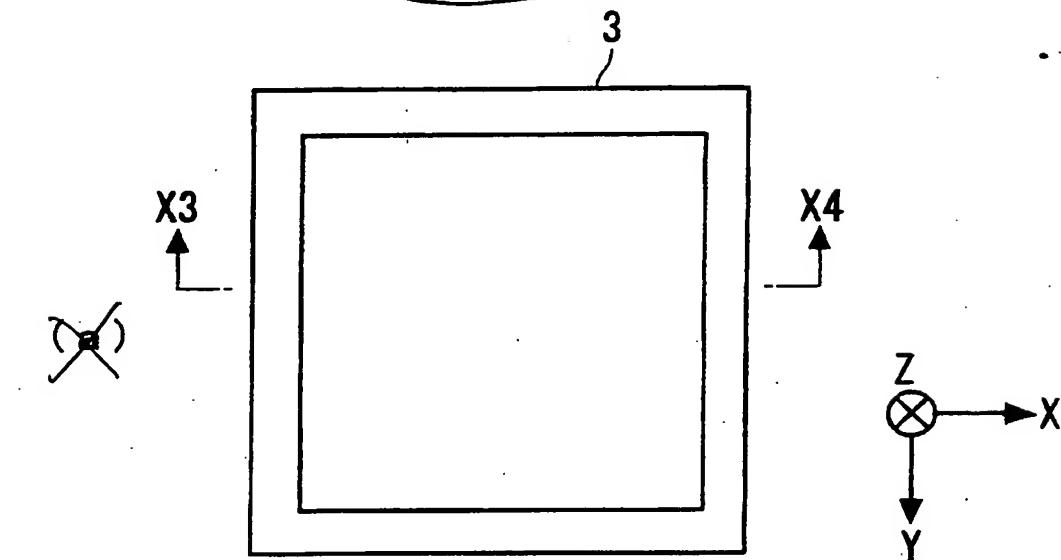
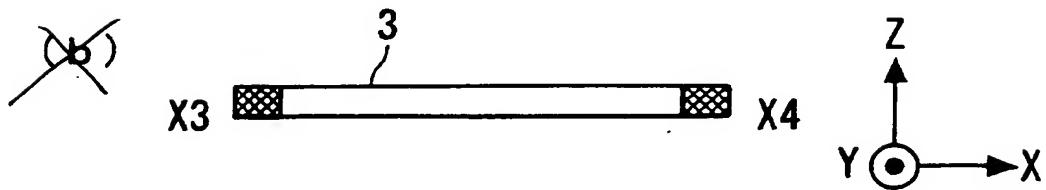
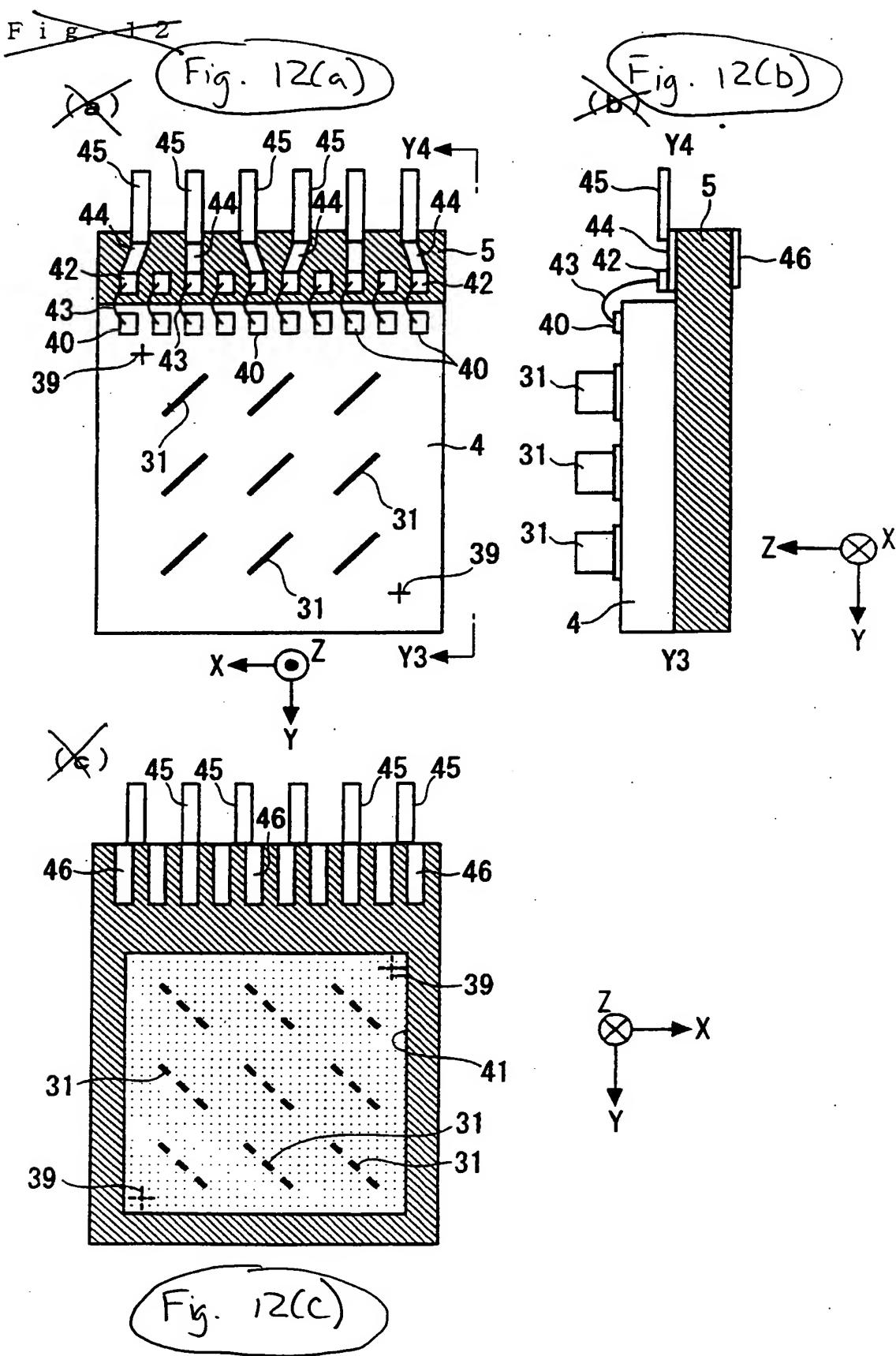


Fig. 11(b)





~~Fig. 13~~

Fig. 13(a)

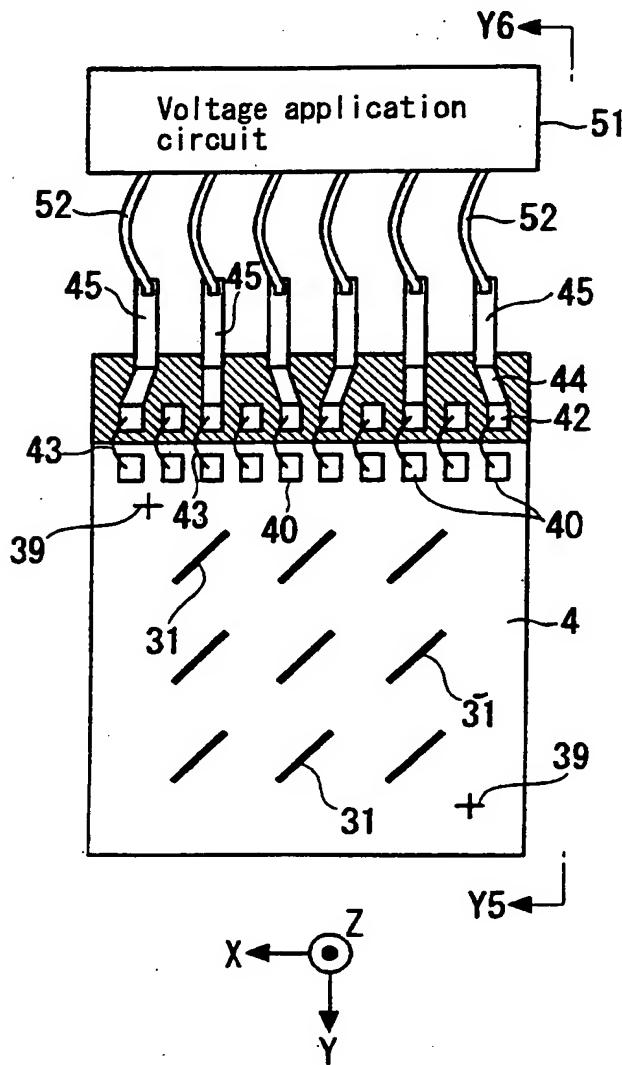
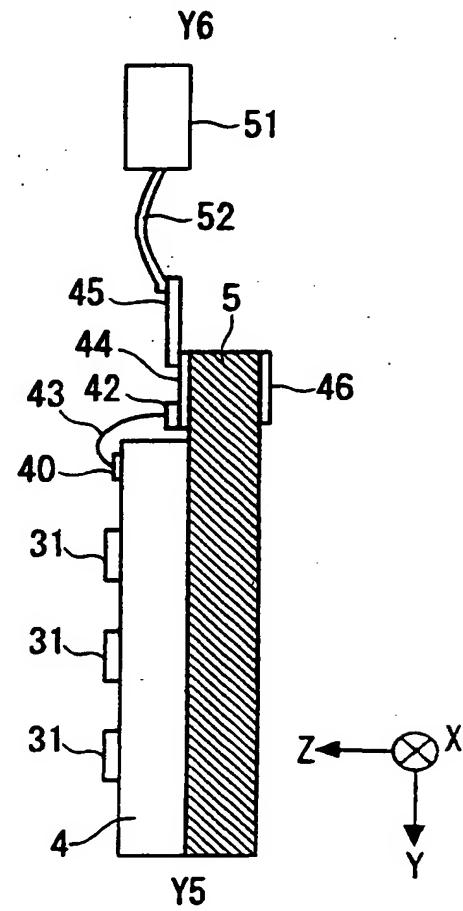


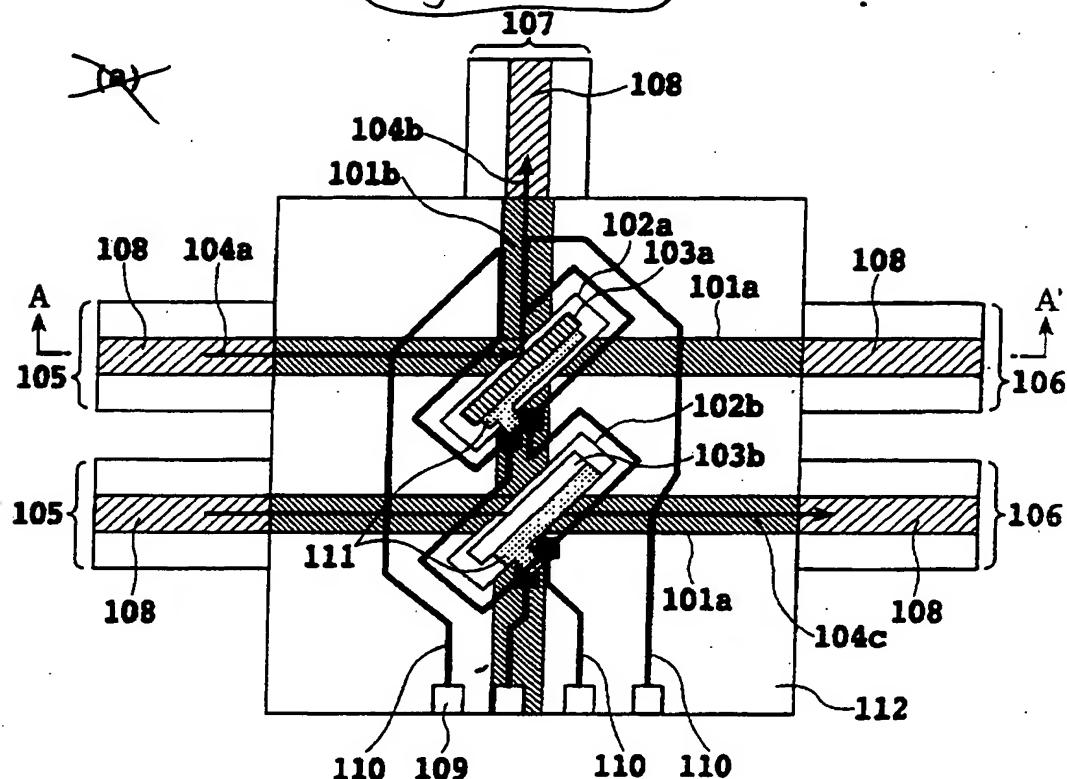
Fig. 13(b)



~~Fig 15~~

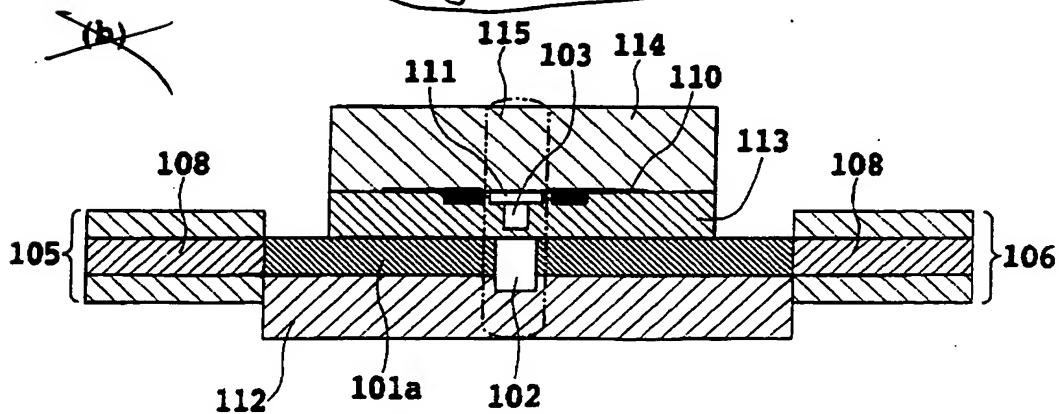
102

Fig. 15(a)



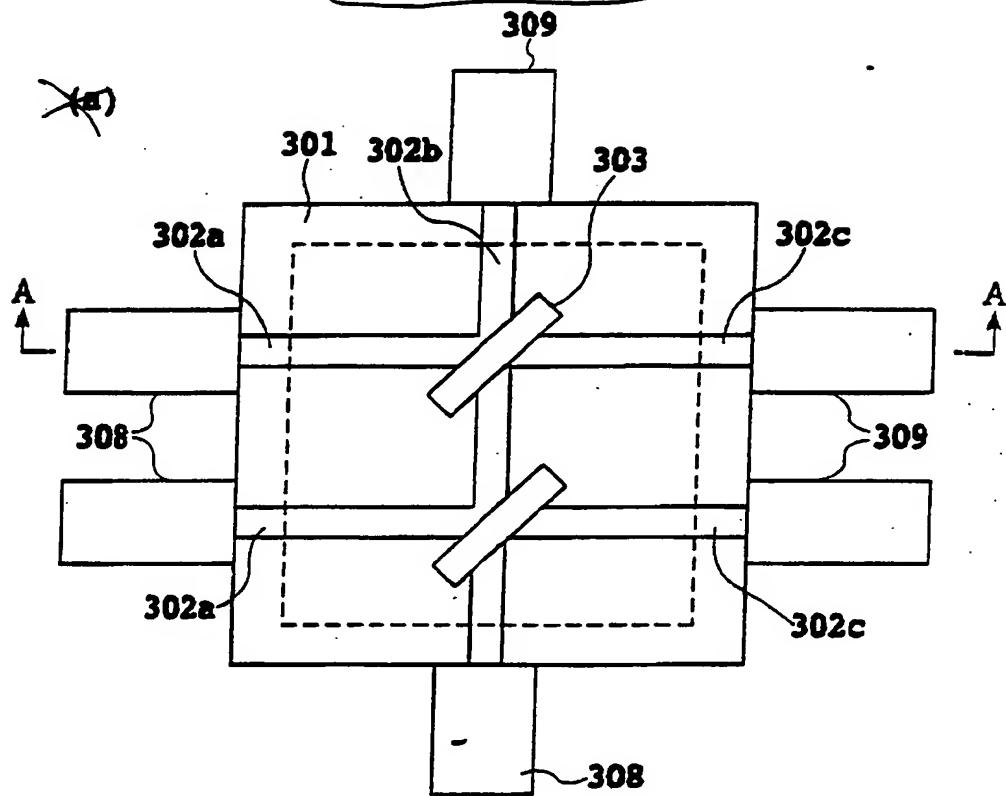
12

Fig. 15(b)



~~Fig. 17~~

Fig. 17(a)
(Prior Art)



10

Fig. 17(b)
(Prior Art)

